09/716,732
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(FILE 'HOME' ENTERED AT 11:03:12 ON 27 MAY 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT 11:03:28 ON 27 MAY 2005

L1	23780	S NEURITE AND OUTGROW?
L2	1055	S L1 AND (CELL BOD?)
L3	246015	S LUMINESC?
L4	7329	S L3 AND IMAGE?
L5	267	S L4 AND PIXEL?
L6	241	DUPLICATE REMOVE L5 (26 DUPLICATES REMOVED)
L7	2	S L6 AND NUCLEAR?
L8	11317	S L3 AND NUCLE?
L9	330	S L8 AND IMAGE?
L10	9	S L9 AND PIXEL?
L11	6	DUPLICATE REMOVE L10 (3 DUPLICATES REMOVED)
L12	9	S L8 AND L1
L13	8	DUPLICATE REMOVE L12 (1 DUPLICATE REMOVED)

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(FILE 'HOME' ENTERED AT 11:03:12 ON 27 MAY 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT 11:03:28 ON 27 MAY 2005

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L13            8 DUPLICATE REMOVE L12 (1 DUPLICATE REMOVED)
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date no good LVCook 5/27/05

ANSWER 7 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:115379 CAPLUS
DN 134:144202
ED Entered STN: 15 Feb 2001
TI Optical system analysis of cells for determination of compounds affecting **neurite outgrowth**
IN Ghosh, Richik; Debiasio, Robin L.; Janardhan, Prem
PA Cellomics, Inc., USA
SO PCT Int. Appl., 138 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N015-14
ICS G01N033-53
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 1, 2, 13
FAN.CNT 21

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001011340	A1	20010215	WO 2000-US21416	20000804
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2381344	AA	20010215	CA 2000-2381344	20000804
EP 1203214	A1	20020508	EP 2000-952549	20000804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003506711	T2	20030218	JP 2001-515947	20000804
US 2003204316	A1	20031030	US 2003-430534	20030506
JP 2005095172	A2	20050414	JP 2004-255895	20040902
PRAI US 1999-147443P	P	19990805		
US 1999-398965	A	19990917		
US 2000-176589P	P	20000118		
US 2000-205696P	P	20000519		
JP 2001-515947	A3	20000804		
WO 2000-US21416	W	20000804		
US 2000-650937	A1	20000829		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001011340	ICM	G01N015-14
	ICS	G01N033-53
WO 2001011340	ECLA	C12N015/10C; G01N033/50D2J
US 2003204316	NCL	702/019.000; 435/004.000
	ECLA	G01N033/50D; G01N033/58D
JP 2005095172	FTERM	2G045/CB01; 2G045/DA13; 2G045/FB07; 2G045/FB12; 2G045/FB13; 2G045/GC15; 4B063/QA01; 4B063/QA05; 4B063/QA18; 4B063/QQ08; 4B063/QQ42; 4B063/QQ79; 4B063/QR56; 4B063/QR90; 4B063/QS32; 4B063/QX02

AB The present invention provides systems, methods, screens, reagents and kits for optical system anal. of cells to rapidly determine the distribution, environment, or activity of fluorescently labeled reporter mols. in cells for the purpose of screening large nos. of compds. for those that specifically affect **neurite outgrowth**. In one aspect, the present invention relates to a method for analyzing cells comprising (1) providing cells containing fluorescent reporter mols. in an array of locations, (2) treating the cells in the array of locations with one or

more reagents, (3) imaging numerous cells in each location with fluorescence optics, (4) converting the optical information into digital data, (5) utilizing the digital data to determine the distribution, environment or activity of the fluorescently labeled reporter mols. in the cells and the distribution of the cells, and (6) interpreting that information in terms of a pos., neg. or null effect of the compound being tested on the biol. function. In this embodiment, the method rapidly dets. the distribution, environment, or activity of fluorescently labeled reporter mols. in cells for the purpose of screening large nos. of compds. for those that specifically affect particular biol. functions. The array of locations may be a microtiter plate or a microchip which is a microplate having cells in an array of locations. In a preferred embodiment, the method includes computerized means for acquiring, processing, displaying and storing the data received. In a preferred embodiment, the method further comprises automated fluid delivery to the arrays of cells. In another preferred embodiment, the information obtained from high throughput measurements on the same plate are used to selectively perform high content screening on only a subset of the cell locations on the plate. In another aspect of the present invention, a cell screening system is provided that comprises: (1) a high magnification fluorescence optical system having a microscope objective, (2) an XY stage adapted for holding a plate containing an array of cells and having a means for moving the plate for proper alignment and focusing on the cell arrays; (3) a digital camera; (4) a light source having optical means for directing excitation light to cell arrays and a means for directing fluorescent light emitted from the cells to the digital camera; and (5) a computer means for receiving and processing digital data from the digital camera wherein the computer means includes a digital frame grabber for receiving the images from the camera, a display for user interaction and display of assay results, digital storage media for data storage and archiving, and a means for control, acquisition, processing and display of results. In another preferred embodiment, a variety of automated cell screening methods are provided, including screens to analyze and to identify compds. that affect transcription factor activity, protein kinase activity, cell morphol., microtubule structure, apoptosis, receptor internalization, protease-induced translocation of a protein, and **neurite outgrowth**.

ST optical system imaging **neurite outgrowth** affecting compd screen

IT Proteins, specific or class
RL: ANT (Analyte); ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(GDI(rhoB) (GDP dissociation inhibitor for gene rhoB protein); optical system anal. of cells for determination of compds. affecting **neurite outgrowth**)

IT Biochemistry
(biochem. compds., neuron-specific; optical system anal. of cells for determination of compds. affecting **neurite outgrowth**)

IT Diagnosis
(cancer; optical system anal. of cells for determination of compds. affecting **neurite outgrowth**)

IT Prostate gland
(carcinoma; optical system anal. of cells for determination of compds. affecting **neurite outgrowth**)

IT Proteins, general, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(cellular; optical system anal. of cells for determination of compds. affecting

neurite outgrowth)
IT Chemistry
(chemical compds., DNA-binding; optical system anal. of cells for determination of
compds. affecting **neurite outgrowth**)
IT Neoplasm
(diagnosis; optical system anal. of cells for determination of compds. affecting **neurite outgrowth**)
IT Enzymes, analysis

date no good 4 week 5/27/05

ANSWER 6 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:360265 CAPLUS
DN 134:363630
ED Entered STN: 18 May 2001
TI A system for cell-based screening
IN Ghosh, Richik N.; Debiasio, Richard; Chen, Yih-Tai; Bellutta, Paolo; Giuliano, Kenneth; Pasley, Jefferson W.
PA Cellomics, Inc., USA
SO PCT Int. Appl., 155 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N015-14
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 1, 6
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001035072	A2	20010517	WO 2000-US30896	20001109
WO 2001035072	A3	20011122		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 1999-164353P	P	19991109	
US 2000-176504P	P	20000118	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001035072	ICM	G01N015-14
WO 2001035072	ECLA	G01N033/50D4; G01N033/569H

AB The present invention provides methods, computer readable storage medium, and kits for cell state identification in cells, where the method includes providing arrays of cells that possess **luminescently** labeled cell identification and cell state reporter mols. that have distinguishable **luminescent** emission spectra; imaging the cells to obtain **luminescent** signals from the cell identification and the cell state reporter mols.; converting the **luminescent** signals into digital data to create a mask of the cell identification reporter mol. and the cell state reporter mols.; and determining the intensity of the cell state reporter mol. mask that co-localizes with the cell identification reporter mol. mask to identify the cell as being in a particular physiol. state. For a screening assay for compds. that induce **nuclear** translocation of transcription factor, a human cell line was plated in 96 well microtiter plates. Some rows of wells were titrated with agonist, a known inducer of a specific **nuclear** transcription factor. The cells were then fixed and stained by standard methods with a fluorescein-labeled antibody to the transcription factor, and with Hoechst 33423. The cell-based screening system was used to acquire and analyze images from this plate and the NucCyt Difference was found to be strongly correlated with the amount of agonist added to the wells.

ST system cell based screening; transcription factor **nuclear** translocation cell screening assay; Hoechst 33423 fluorescein labeled antibody cell screening; drug screening cell based

IT Animal cell line
(L-929, drug-induced apoptosis screening with; system for cell-based screening)

IT Animal cell line
(PC12; system for cell-based screening)
IT Animal cell line
(PC6-3, **neurite outgrowth** in; system for cell-based screening)
IT Animal cell line
(SNB-19, drug-induced apoptosis screening with; system for cell-based screening)
IT Adipose tissue
(adipogenesis; system for cell-based screening)
IT Analysis
Process automation
(automated anal., for cell viability; system for cell-based screening)
IT Hypertrophy
(automated screen for compds. inducing or inhibiting, in cardiac myocytes; system for cell-based screening)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(blue fluorescent, chimeras with receptors; system for cell-based screening)
IT **Luminescent** substances
(cell identification and cell state reporter mols. labeled with; system for cell-based screening)
IT Pathogen
(cell infection with; system for cell-based screening)
IT Transferrins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(conjugates, with Alexa 488; system for cell-based screening)
IT Information systems
(data, digital; system for cell-based screening)
IT Cameras
(digital; system for cell-based screening)
IT Artery
(foam cell, formation; system for cell-based screening)
IT Receptors
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(fusion proteins with fluorescent proteins; system for cell-based screening)
IT Neuroglia
(glioblastoma, inhibitors; system for cell-based screening)
IT Antitumor agents
(glioblastoma; system for cell-based screening)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation); PROC (Process)
(green fluorescent, fusion proteins with human glucocorticoid receptors; system for cell-based screening)
IT Transferrins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(internalization and trafficking assays; system for cell-based screening)
IT Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
(internalization of; system for cell-based screening)

IT Biological transport
(internalization, receptor-mediated; system for cell-based screening)

IT Biological transport
(intracellular, **nuclear**, screening for compds. inducing or inhibiting; system for cell-based screening)

IT Antibodies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(labeled, with fluorescent label, to transcription factor; system for cell-based screening)

IT Cell membrane
(**luminescent** marker permeable to; system for cell-based screening)

IT Membrane, biological
(**luminescent nucleic** acid stain permeable to; system for cell-based screening)

IT Analysis
(masking; system for cell-based screening)

IT **Nucleic** acids
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(membrane permeable **luminescent** stain for; system for